



**M2**

**GENERAL CERTIFICATE OF SECONDARY EDUCATION  
 MATHEMATICS C (GRADUATED ASSESSMENT)  
 MODULE M2 – SECTION B**

**B272B**

Candidates answer on the question paper.

**OCR supplied materials:**  
None

**Other materials required:**

- Geometrical instruments
- Tracing paper (optional)
- Electronic calculator

**Tuesday 21 June 2011  
 Afternoon**

**Duration: 30 minutes**



Candidate forename		Candidate surname	
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Centre number						Candidate number				
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**INSTRUCTIONS TO CANDIDATES**

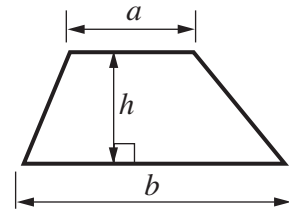
- Write your name, centre number and candidate number in the boxes above. Please write clearly and in capital letters.
- Use black ink. Pencil may be used for graphs and diagrams only.
- Read each question carefully. Make sure you know what you have to do before starting your answer.
- Show your working. Marks may be given for a correct method even if the answer is incorrect.
- Write your answer to each question in the space provided. Additional paper may be used if necessary but you must clearly show your candidate number, centre number and question number(s).
- Answer **all** the questions.
- Do **not** write in the bar codes.

**INFORMATION FOR CANDIDATES**

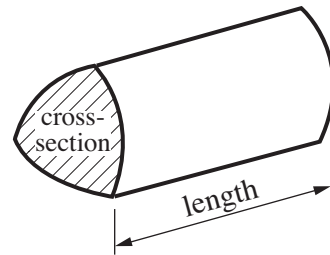
- The number of marks is given in brackets [ ] at the end of each question or part question.
- Section B starts with question 8.
- You are expected to use a calculator in Section B of this paper.
- The total number of marks for this Section is **25**.
- This document consists of **8** pages. Any blank pages are indicated.

## Formulae Sheet

$$\text{Area of trapezium} = \frac{1}{2} (a + b)h$$



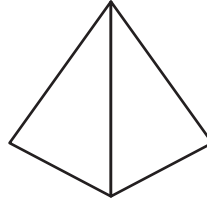
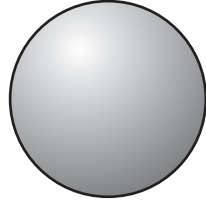
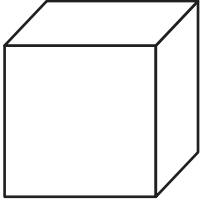
$$\text{Volume of prism} = (\text{area of cross-section}) \times \text{length}$$



**PLEASE DO NOT WRITE ON THIS PAGE**

8 Choose the correct name for each of these solids from the list.

Cone      Cuboid      Cylinder      Pyramid      Cube      Sphere



.....

.....

.....

..... [3]

9 Joe's Car Hire uses this formula to work out the cost, in pounds, of hiring a car.

- Multiply the number of days for which the car is hired by 18
- Then add 25

How much does it cost to hire a car for 6 days?

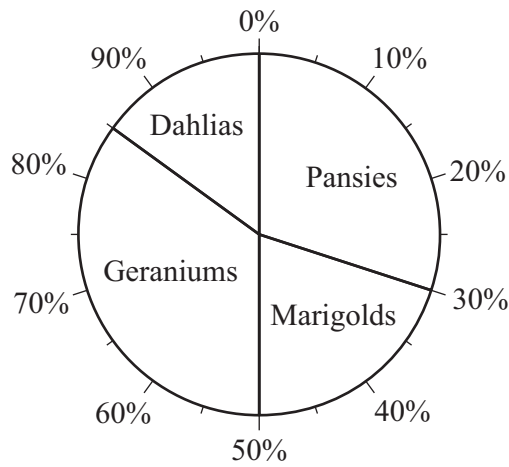
£ ..... [2]

- 10 (a) Lizzie buys 172 plants.  
 She puts her plants into trays.  
 Each tray holds 12 plants.

How many trays does Lizzie need?

(a) ..... [2]

- (b) This pie chart shows the types of plants Lizzie buys.



- (i) What percentage of the plants are Pansies?

(b)(i) ..... % [1]

- (ii) Sally thinks 85% of the plants are Geraniums.

Explain why Sally is wrong.

.....  
 ..... [1]

- (c) Lizzie spends £108 at the garden centre.  
Her Mum pays 25% of the bill.

How much does her Mum pay?

(c) £ ..... [1]

- (d) James buys 9 bean plants.  
These are the heights of the bean plants, in centimetres.

15      18      22      15      21      16      15      11      16

For these plants,

- (i) find the median,

(d)(i) ..... cm [2]

- (ii) find the mode.

(ii)..... cm [1]

- (e) Alec buys  $1\frac{1}{2}$  kg of fertilizer.

Change  $1\frac{1}{2}$  kg into grams.

(e) ..... g [1]

**Turn over**

- 11 This table shows the tram fares for adults between places in Westland.

	Station	University	Cathedral	Market Street	Portland Road
Station	£1.50				
University	£0.70	£0.95			
Cathedral	£1.80	£1.20	£1.70		
Market Street	£0.60	£0.80	£0.70	£1.10	
Portland Road					

- (a) What is the tram fare from the University to Portland Road?

(a) £ ..... [1]

- (b) Mrs Raul travels from the Station to the Cathedral.  
Later she travels from the Cathedral to Market Street.

How much does she pay altogether?

(b) £ ..... [2]

- (c) A child fare is 50% of the adult fare.  
Mr and Mrs Smith and their child travel from Market Street to the Station.

How much is their total fare?

(c) £ ..... [3]

12 This table shows the minimum temperature for 7 cities one day in January.

City	Minimum Temperature (°C)
Beijing	-10
Lima	22
London	5
Moscow	-12
Oslo	-4
Stockholm	-3
Sydney	18

(a) Write these temperatures in order, starting with the coldest.

.....  
coldest

[2]

(b) How much warmer was Sydney than Oslo?

(b) ..... °C [1]

(c) The maximum temperature in Moscow that day was 5 °C warmer than the minimum.

What was the maximum temperature in Moscow that day?

(c)..... °C [1]

**TURN OVER FOR QUESTION 13**

13 This line represents 10 kilometres on a map.



Estimate the number of kilometres that the line below represents on the same map.



..... km [1]



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